

What is claimed is:

1. A server of a local area network in which the server is connected to a terminal via a communication line selected from plural communication lines, the server comprising:

a buffer for cumulating transmission or reception data for the latest predetermined quantity in each communication line; and

10 a switch processing portion for performing a switching process of the plural communication lines, including

a switch request receiving portion for receiving a request to switch the line and the address in 15 the buffer corresponding to data that are already received by the terminal transmitted by the terminal,

a line selecting portion for selecting an appropriate communication line in response to the request to switch the line,

20 a switch instruction transmitting portion for transmitting an instruction of switching to the selected communication line and the address in the buffer corresponding to data that are already received by the server, and

25 a data destination switching portion for transferring packet data received for the terminal corresponding to the communication line before the switching to the communication line after the switching.

2. A server as recited in claim 1, further
30 comprising a line performance measuring portion for

measuring performance of each of the plural communication lines including a communication speed, wherein the line selecting portion selects an appropriate communication line in accordance with measurement result of the line 5 performance measuring portion.

3. A server as recited in claim 2, wherein the line performance measuring portion measures performances including communication speeds of the plural communication lines when the switch request receiving portion receives 10 the request to switch the line from the terminal.

4. A server as recited in claim 1, further comprising a terminal operation state monitoring portion for monitoring an operation state of the terminal, wherein the terminal operation state monitoring portion transmits 15 a predetermined instruction to the terminal and if there is no response from the terminal in a predetermined period, the terminal operation state monitoring portion informs the application of the fact.

5. A server as recited in claim 1, further 20 comprising a line management portion for detecting communication lines that each of the terminals uses for connecting to the server and traffics thereof, wherein the line selecting portion selects an appropriate communication line in accordance with detection result of 25 the line management portion.

6. A server as recited in claim 5, wherein the switch processing portion issues a line switching instruction to terminals except one that transmitted the request to switch the line in accordance with the 30 detection result of the line management portion so as to

perform a switching process of the communication line, and allocates the communication line that has become free by the switching process to the terminal that transmitted the request to switch the line.

- 5 7. A terminal of a local area network in which the terminal is connected to a server via a communication line selected from plural communication lines, the terminal comprising:

 a buffer for cumulating transmission or reception

- 10 data for the latest predetermined quantity in each communication line;

 a cable mate detecting portion for detecting mating or unmating of a communication cable; and

- 15 a switch processing portion for performing a switching process of the plural communication lines, including

 a switch requesting portion for transmitting a request to switch the line and the address in the buffer corresponding to data that are already received by the terminal to the server in accordance with a predetermined instruction including a signal from the cable mate detecting portion,

- 20 a switch instruction receiving portion for receiving a switch instruction transmitted from the server and the address in the buffer corresponding to data that are already received by the server, and

- 25 a switch executing portion for executing the switching to the communication line designated by the switch instruction and for synchronizing the buffer of the terminal with the server side.

PROVISIONAL PRIORITY

8. A line switching system of a local area network in which a server is connected to a terminal via a communication line selected from plural communication lines, wherein the server comprises:

5 a buffer for cumulating transmission or reception data for the latest predetermined quantity in each communication line; and

 a switch processing portion for performing a switching process of the plural communication lines,

10 including

 a switch request receiving portion for receiving a request to switch the line and the address in the buffer corresponding to data that are already received by the terminal transmitted by the terminal,

15 a line selecting portion for selecting an appropriate communication line in response to the request to switch the line,

 a switch instruction transmitting portion for transmitting an instruction of switching to the selected communication line and the address in the buffer corresponding to data that are already received by the server, and

20 a data destination switching portion for transferring packet data received for the terminal corresponding to the communication line before the switching to the communication line after the switching,

 and the terminal comprises:

 a buffer for cumulating transmission or reception data for the latest predetermined quantity in each communication line;

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a cable mate detecting portion for detecting mating or unmating of a communication cable; and

a switch processing portion for performing a switching process of the plural communication lines,

5 including

a switch requesting portion for transmitting a request to switch the line and the address in the buffer corresponding to data that are already received by the terminal to the server in accordance with a predetermined

10 instruction including a signal from the cable mate detecting portion,

a switch instruction receiving portion for receiving a switch instruction transmitted from the server and the address in the buffer corresponding to data that 15 are already received by the server, and

a switch executing portion for executing the switching to the communication line designated by the switch instruction and for synchronizing the buffer of the terminal with the server side.

20 9. A line switching system as recited in claim 8, wherein at least one of the server and the terminal further comprises a line management portion for memorizing a variation of a communication speed due to switching of a communication line in the past and for reading out of the 25 memory data the variation of the communication speed due to the switching of the communication line so as to inform an application when the switching occurs.

10. A line switching system as recited in claim 8, wherein when the switching of the communication line 30 occurs, a first communication line is allocated to the

communication from the server to the terminal, while a second communication line except the first communication line is allocated to the communication from the terminal to the server.

- 5 11. A line switching system as recited in claim 8,
wherein the request to switch the line transmitted from
the terminal includes a candidate of the communication
line to be used after the switching, and the line
selecting portion in the switch processing portion of the
10 server selects the communication line included in the
request to switch the line from the terminal as an
appropriate communication line.